AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions or listings of claims for this application.

Listing of Claims:

1. (Original) A method of detecting nucleic acid by using DNA microarrays, comprising the steps of:

allowing a sample containing nucleic acids to interact with the DNA microarray comprising a plurality of nucleic acid probe parts having a nucleic acid probe capable of hybridizing to a specific nucleic acid;

monitoring outputs from each of the plurality of nucleic acid probe parts due to hybridization between the nucleic acid probe and the specific nucleic acid to determine distribution per unit time with respect to the number of pieces of the nucleic acid probe parts whose outputs exceed a predetermined value; and

quantifying the specific nucleic acid contained in the sample based on a maximum value determined by normalizing the distribution obtained in the above step.

2. (Original) The method of detecting nucleic acid by using DNA microarrays according to claim 1, wherein the DNA microarray is formed by immobilizing the nucleic acid probe on the surface of gate insulator directly or via a carrier and comprises a plurality of insulated gate field effect transistors corresponding to the plurality of nucleic acid probe parts; and the outputs from the insulated gate field effect transistors are monitored.

3. (Original) The method of detecting nucleic acid by using DNA microarrays according to claim 1, wherein, in the step of allowing the sample containing nucleic acids to interact with the DNA microarray, nucleic acid amplification is carried out on the DNA microarray using the nucleic acid as a template.

4. (Original) The method of detecting nucleic acid by using DNA microarrays according to claim 3, wherein the nucleic acid amplification is carried out by an isothermal amplification method.

5. (Original) A nucleic acid detection apparatus comprising:

a measuring unit to attach a DNA microarray provided with a plurality of nucleic acid probe parts having a nucleic acid probe capable of hybridizing to a specific nucleic acid;

detecting units that detect outputs from each of the nucleic acid probe parts of the DNA microarray attached on the measuring unit; and

a computing unit that determines distribution per unit time with respect to the number of pieces of the nucleic acid probe parts whose outputs exceed a predetermined level and quantifies the specific nucleic acid contained in a sample based on a maximum number determined by normalizing the distribution.

6. (Original) The nucleic acid detection apparatus according to claim 5, wherein the DNA microarray is formed by immobilizing the nucleic acid probe on the surface of gate insulator directly or via a carrier and comprises a plurality of insulated gate field effect transistors corresponding to the plurality of nucleic acid probe parts; and the detecting units monitor outputs from the insulated gate field effect transistors.

7. (Original) The nucleic acid detection apparatus according to claim 5, wherein the DNA microarray comprises a plurality of sections having the plurality of nucleic acid probe parts; and time required for hybridization between the specific nucleic acid and the nucleic acid probe is different in each section.

8. (Currently amended) A DNA microarray comprising a plurality of sections comprising a plurality of nucleic acid probe parts having ~~comprising~~ a nucleic acid probe capable of hybridizing to a specific nucleic acid, wherein time required for hybridization

between the specific nucleic acid and the nucleic acid probe is different in each of the plurality of sections.

9. (Original) The DNA microarray according to claim 8, comprising detecting units that are arranged corresponding to the plurality of nucleic acid probe parts and detect hybridization between the specific nucleic acid and the nucleic acid probe.

10. (Original) The DNA microarray according to claim 9, wherein the detecting units are insulated gate field effect transistors.

Claim 11 (Canceled).

12. (Original) The DNA microarray according to claim 8, comprising a plurality of sections having the plurality of nucleic acid probe parts, wherein a density of the nucleic acid probe in the nucleic acid probe part differs in each of the plurality of sections.

13. (Original) The DNA microarray according to claim 8, comprising a plurality of sections having the plurality of nucleic acid probe parts, wherein an area of the nucleic acid probe part differs in each of the plurality of sections.

14. (Original) The DNA microarray according to claim 8, comprising a plurality of sections having the plurality of nucleic acid probe parts, wherein a length of the nucleic acid probe differs in each of the plurality of sections.

15. (New) A DNA microarray comprising a plurality of sections comprising a plurality of nucleic acid probe parts having a nucleic acid probe capable of hybridizing to a specific nucleic acid, wherein an area of the nucleic acid probe part differs in ech of the plurality of sections.

16. (New) The DNA microarray according to claim 15, comprising detecting units that are arranged corresponding to the plurality of nucleic acid probe parts and detect hybridization between the specific nucleic acid and the nucleic acid probe.

17. (New) The DNA microarray according to claim 16, wherein the detecting units are insulated gate field effect transistors.

18. (New) The DNA microarray according to claim 15, comprising the plurality of sections provided with the plurality of nucleic acid probe parts, wherein time required for hybridization between the specific nucleic acid and the nucleic acid probe is different in each of the plurality of sections.

19. (New) The DNA microarray according to claim 15, comprising the plurality of sections having the plurality of nucleic acid probe parts, wherein a density of the nucleic acid probe in the nucleic acid probe part differs in each of the plurality of sections.

20. (New) The DNA microarray according to claim 15, comprising the plurality of sections having the plurality of nucleic acid probe parts, wherein a length of the nucleic acid probe differs in each of the plurality of sections.